



Kessler and Gehman Associates
Consultants • Broadcast • Wireless

**DIGITAL LPTV
CONSTRUCTION
PERMIT
MINOR MODIFICATION
APPLICATION**

**CALL SIGN: WPVS-LD
FACILITY ID: 67976
LOCATION: MILWAUKEE, WI**

Prepared For:

Polnet Communications, Ltd.
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Elk Grove Village, IL 60007

Prepared By:

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1.0 INTRODUCTION AND SCOPE OF WORK

Polnet Communications, Ltd. is the licensee of a digital low power television broadcast station having call sign WPVS-LD, and facility ID 67976. WPVS-LD has a license¹ to operate on channel 9 using a directional antenna with an ERP of 0.2kW at a height of 389.5m AMSL on antenna structure number 1057482. It is proposed to modify the construction permit to

- replace the Kathrein K523157 with an Alive ATC-BCE04WRS-V2-9,
- increase the antenna height by 38.1m,
- increase the ERP from 0.2kW to 3.0kW
- change the polarization from Horizontal to Elliptical,
- Change the electrical beam tilt from 0.0 to 0.5.

No other changes are proposed.

2.0 STATION TRANSMITTER LOCATION AND TOWER ELEVATION

It is proposed to keep WPVS-LD at its licensed location on an existing tower which has an FCC Antenna Structure Registration Number (“ASRN”) of 1057482. The instant application does not propose to increase or modify the existing support structure or ASRN.

3.0 ALLOCATION ANALYSIS

Appendix B are the summarized results from TVStudy V2.2.5 which illustrate that there are no prohibited interference failures.

4.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

4.1 General Environmental Requirements

¹ FCC File No.: 0000179499

The existing support structure with the addition of the proposed new antenna will not modify any of the following environmental considerations that trigger an environmental assessment:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation, or water diversion).

4.2 Radio Frequency Radiation (RFR) Compliance.

A theoretical analysis has been conducted of the human exposure to radio frequency radiation (“RFR”) using the calculation methodology described in OET Bulletin 65, Edition 97-01, pursuant to the following methodology:

Terrain² extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

² Terrain extraction is based upon a 3 arc second point spacing terrain database.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

Appendix C is the resulting RFR study demonstrating that the peak exposure is 0.08%. The instant application is compliant with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

5.0 CERTIFICATION

The foregoing statement and the report regarding the engineering work are true and correct to the best of my knowledge. Executed June 3, 2022.

Kessler and Gehman Associates, Inc.



Ryan Wilhour
Consulting Engineer

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Milwaukee, WI

APPENDIX A – TVStudy V2.2.5 Allocation Analysis

Study created: 2022.06.03 09:58:05

Study build station data: LMS TV 2022-06-02

Proposal: WPVS-LP D9 LD CP MILWAUKEE, WI
File number: Proposed
Facility ID: 67976
Station data: User record
Record ID: 1113
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WWMT	D8	DT	LIC	KALAMAZOO, MI	BLANK0000159066	199.6 km
No	WZCK-LD	N8-	TX	LIC	MADISON, WI	BLTVL19920324IF	119.9
No	WMVS	D8	DT	APP	MILWAUKEE, WI	BLANK0000035791	0.0
No	WMVS	D8	DT	LIC	MILWAUKEE, WI	BLANK0000040294	0.0
Yes	KCRG-TV	D9	DT	LIC	CEDAR RAPIDS, IA	BLANK0000001351	334.4
No	DDWCRD-LP	D9+	LD	APP	Freeport, IL	BLANK0000054708	162.1
No	WILL-TV	D9	DT	APP	URBANA, IL	BPEDT20100406ABJ	345.7
No	WILL-TV	D9	DT	LIC	URBANA, IL	BLEDT20050920AEE	345.7
No	WISH-TV	D9	DT	LIC	INDIANAPOLIS, IN	BLANK0000055426	383.3
No	KPDS-LD	D9	LD	LIC	WOLCOTT, IN	BLANK0000188908	206.8
Yes	WWTW	D9	DT	LIC	CADILLAC, MI	BLCDT20091217ACZ	236.3
Yes	WWTW	D9	DT	CP	CADILLAC, MI	BLANK0000035807	236.3
No	WXON-LD	N9+	TX	LIC	MILLINGTON, MI	BLTVL20030609AGJ	343.0
No	KMSP-TV	D9	DT	LIC	MINNEAPOLIS, MN	BLANK0000188825	470.3
No	WAOW	D9	DT	CP	WAUSAU, WI	BLANK0000035727	248.0
No	WAOW	D9	DT	LIC	WAUSAU, WI	BLCDT20120627ABL	248.0
No	WAOE	D10	DT	LIC	OSWEGO, IL	BLANK0000151562	218.8
No	WAOE	D10	DT	CP	OSWEGO, IL	BLANK0000168790	218.8
No	WAOE	D10	DD	APP	OSWEGO, IL	BLANK0000189533	200.9
No	WYGN-LD	D10	LD	LIC	BERRIEN SPRINGS, MI	BLDVL20090629AAT	179.1
No	WMVS	D10	LD	LIC	MILWAUKEE, WI	BLANK0000150206	0.0
No	CBET-DT	D9	DT	LIC	WINDSOR, ON	BLANKCANADA242	418.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D9
Mask: Full Service
Latitude: 43 5 46.20 N (NAD83)
Longitude: 87 54 15.00 W
Height AMSL: 427.6 m
HAAT: 229.4 m
Peak ERP: 3.00 kW
Antenna: Alive TC-BCE04WRS-V2-9 270.0 deg
Elev Pattnr: Generic
Elec Tilt: 0.50

48.0 dBu contour:
Azimuth ERP HAAT Distance
0.0 deg 0.003 kW 223.5 m 14.9 km
45.0 0.594 250.6 47.6
90.0 2.88 250.6 58.9
135.0 2.67 248.2 58.2
180.0 2.65 233.3 57.3

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225.0	2.99	209.3	56.9
270.0	1.69	209.2	52.8
315.0	0.018	210.9	23.0

Distance to Canadian border: 401.8 km

Distance to Mexican border: 1905.4 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 108.3 degrees Distance: 167.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 263.1 degrees Distance: 1473.0 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

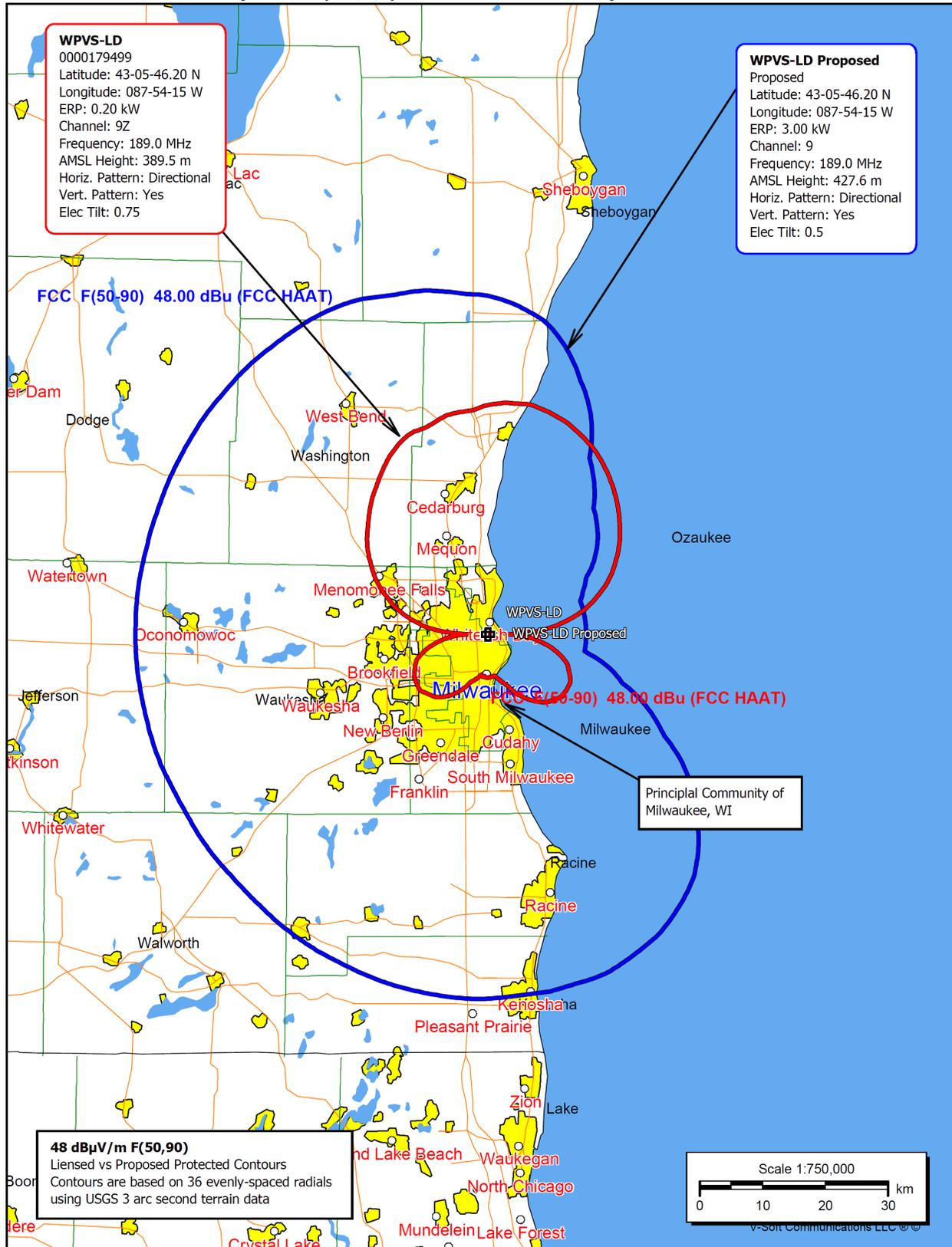
Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Proposal causes no interference to BLANK0000001351 LIC
Proposal causes 0.24% interference to BLCDT20091217ACZ LIC scenario 1
Proposal causes 0.25% interference to BLANK0000035807 CP scenario 1

---- Below is IX received by proposal Proposed ----

**MX with BLANK0000035791 APP scenario 1, 7.79% interference received
**MX with BLANK0000035791 APP scenario 2, 7.79% interference received
Proposal receives 5.32% interference from scenario 3
Proposal receives 5.31% interference from scenario 4
**MX with BLANK0000035791 APP scenario 5, 7.80% interference received
**MX with BLANK0000035791 APP scenario 6, 7.80% interference received
Proposal receives 5.35% interference from scenario 7
Proposal receives 5.35% interference from scenario 8

APPENDIX B – 48dB μ V/m F(50,90) Licensed and Proposed Contour



APPENDIX C – Far Field Exposure to RF Emissions

